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ABSTRACT

This study investigated how students over the age of 30--nontraditional students--performed in the university setting compared to traditional students (under age 30). Overall classroom performance was evaluated by teacher-made assessments for the two groups of students, who were enrolled in an undergraduate technical writing course during the spring semester 2000. The population consisted of 6 students over age 30 and 15 students under age 30. Although sex was not a factor in the study, 8 students were female and 13 were male. Students were majoring in a variety of subjects. The mean mid-semester percentage score for the students over age 30 was 89; for those under age 30 it was 86. A "t" test score of .857 and 19 df indicated no significant difference between the traditional and nontraditional students. (Contains 20 references.) (RH)

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ED 442 419

Traditional Versus Non-Traditional University Students: Does Age Determine Learning?

by

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A Study

Submitted in partial fulfillment

of the requirements for the degree of

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Traditional Versus Non-Traditional University Students: Does Age Determine Learning?

Chapter 1

INTRODUCTION

Colleges and universities appeal to many types of students, as the university setting is open to all students regardless of age, color, sex or ethnicity. Though all these factors are present in university classrooms, one factor was of importance for this study, student's age as it relates to learning. Do younger students perform better than older students in the university setting? Do older students dedicate more time and effort to their studies? Attempting to answer these questions, this paper analyzed the differences between older and younger college students.

This study investigated how university students over the age of 30 possibly performed better in the university setting than those university students under the age of 30. Determining students' overall classroom performance was evaluated by teacher-made assessments as both traditional and non-traditional students attended an English course at Oklahoma State University in Tulsa, Oklahoma.

STATEMENT OF THE PROBLEM

The purpose of this study was to determine whether or not there was a significant difference in the mean mid-semester percentage score between a population of 6 university students over the age of 30 and a population of 15 university students under the age of 30 as measured by teacher-made assessments at OSU-Tulsa, Spring Semester 2000, Tulsa, Oklahoma.

IMPORTANCE OF THE STUDY

Determining students' performance and evaluating criteria which enhances student learning gives university administrators the opportunity to alter classroom settings in which to benefit both traditional and non-traditional students. Determining the needs of students may also help professors better understand the learning capabilities of their students. Students, both young and old, will benefit from knowing that universities and colleges are taking necessary steps to ensure the best learning environment possible.

GENERAL PROCEDURES

Surveys that determined each student's age were passed out among students of Technical Writing, an undergraduate English course taught by Barbara Christmann at OSU-Tulsa during the Spring Semester 2000. The students were then divided into two groups, those over the age of 30 and those under the age of 30. Each student's teacher-made assessment scores were compiled and averaged, producing a mid-semester percentage score for each student. The averages were compared to reflect whether or not there was a significant difference between the two groups at the .05 level of confidence.

SPECIFIC OBJECTIVES OF THE STUDY

The specific objectives of this study are to:

1. Identify the mean mid-semester percentage score of the university students over the age of 30.
2. Identify the mean mid-semester percentage score of the university students under the age of 30.
3. Determine whether or not there is a difference in the mean percentage score of the two groups.

4. Determine whether or not that difference is significant at the .05 level of confidence.
5. Assume the Null Hypothesis.

QUESTIONS TO BE ANSWERED

The questions to be answered in this study are:

1. What is the mean mid-semester percentage score of the university students over the age of 30?
2. What is the mean mid-semester percentage score of the university students under the age of 30?
3. Is there a difference in the mean percentage score of these two groups?
4. Is that difference significant at the .05 level of confidence?
5. Will the Null Hypothesis be accepted or rejected?

DEFINITIONS OF TERMS

For the purpose of this study, the following terms are defined:

- Teacher-made assessments:

These are tests, assignments and projects designed and administered by the teacher of a particular class.

- Traditional students:

These are younger students who often entered college directly from high school. These students are normally under the age of 30.

- Non-traditional students:

These are older students who often returned to college after establishing a career and/or family. .These students are normally over the age of 30.

Chapter 2

REVIEW OF THE LITERATURE

Stepping into a university classroom illustrates the wide variety of students attending college today. These students are of different race, male and female, and young and old. The differences between traditional and non-traditional students became the focus of much research, as scholars evaluated the trend of older student enrollment, the needs of older students compared to younger students, the differing attitudes of students and instructors in the classroom, the test scores rating student learning, and administrators recruiting techniques.

The trend of non-traditional student enrollment was not a recent phenomenon. One factor influencing older student enrollment was the introduction of the G.I. Bill in 1946, in which World War II veterans returned to college. From the passage of this Veterans Readjustment Act, the number of non-traditional students was on the rise. In 1970 the estimated number of non-traditional students enrolled was 487 as compared to the traditional student enrollment of 1074. The projected number of non-traditional student enrollment was estimated to increase to 1360 beginning in the 1990's (Solomon, 1991, pp. 2-3). Though the projected traditional student enrollment was also estimated to increase, it wasn't as drastic of a change.

While analyzing enrollment trends, a study by Kayla (1982) showed that students who attended part-time were often older, and they had a tendency to attend more degree-oriented classes. Though the number of students who were degree oriented was largest among the older students, the younger students attended college full-time, attended more leisure classes, and often graduated after 4 years of beginning their studies (p. 5).

Another factor influencing older student enrollment was the increase of off-campus credit classes being offered by many universities. These classes made college more convenient for students who couldn't attend day classes at the university. Older students made up the majority of off-campus students, and these students were also more likely to be female (Conklin, 1999, p. 11).

Continuing to look at student enrollment, Cuyahoga Community College in Cleveland, Ohio conducted a study analyzing the ages of its students. The average student age was 29.6, with 55 % of those students over the age of 24 (Jones, 1998, p. 14). This study helped to illustrate the increase in older student enrollment and shed light on the variety of students entering the university classroom.

The needs of older students have also been the focus of recent research. With the emergence of older students in the college setting, administrators and instructors had to re-evaluate certain techniques in which to benefit all students. Quinley (1998) investigated the trend known as reverse transfer as it became increasingly popular among students. The program allowed students who had already earned baccalaureate degrees to return to school in order to enhance their learning. Most of these students returned for career purposes; however, a large majority returned for personal self-enrichment (p. 8). These reasons allowed universities to recognize the different objectives among students.

Students of different ages have been noted to request different things. Cheryl Brown's study (1983) into Specific Language Imput evaluated older students' needs as compared to younger students' needs. Older students requested better instruction, whereas the younger students requested more imput with little instructional change (p. 14). These simple differences made noting variety in age important.

Request for better instruction wasn't the only need recognized by administrators. Among older students the need for lecturing as the chief strategy, discussion, the use of inquiry, role-playing, and group projects was more prevalent. Younger students, though responsive to these techniques, requested more outside projects and less lecturing (Harrell, 1987, p. 28).

Aside from different student needs, the attitude of both the older and younger students toward each other was important. Most younger students admired their older classmates in the academic setting; however, in social situations they believed older students were distant and unfriendly (Peabody & Sedlacek, 1982). Older students also admired their younger counterparts, but often demonstrated slight intimidation in lower level college classes. The older students incorporated more life experiences into classroom instruction, leading to more interesting lectures according to younger student opinion (O'Connor, 1994, p. 84).

Aside from the students, the instructors also expressed their opinions regarding the mixture of old and young students in the classroom. Mishler (1983) stated instructors had an overwhelming positive attitude toward the variance in the classroom and believed that the variety gave students many different perspectives toward subject matter. Students of different ages learned from one another's imput and experiences, making classroom discussion very enlightening (p. 5).

Analyzing tests that determine student intelligence was also used to understand the difference between younger and older university student learning. These tests rated student comprehension in virtually every academic field.

The first academic field was mathematics. A study that included a "math autobiography" determined that older students were more confident on secular mathematics than younger students, and older students expressed more interest in the subject (Lehmann, 1987, p. 7).

Another study into the field of mathematics showed that students who had taken a college prepatory class in Freshmen Algebra were more likely to perform better in the classroom. Though this study analyzed both young and old students, the study showed that regardless of age the students who took the prepatory class were more confident in their math skills (Martel & Mehallis, 1985).

English was another important academic field used to determine a difference in student learning. Certain tests evaluated students' performance on vocabulary and comprehension. On vocabulary the older students scored significantly higher than the younger students, and the younger students scored almost equal on comprehension. The average vocabulary score for student over the age of 30 was 80.0%, whereas the students under the age of 30 scored 64.1%. The comprehension scores between the two groups were practically exact with the older students scoring 55.8% and the younger students scoring 54.7% (Sewal, 1984, p. 12).

Changes in students' personalities were also noted as being significant factors in determining a difference between younger and older student learning. College attendance was important in analyzing students' attitude toward learning. The analysis of attitude after the first year of college remained consistent between both traditional and non-traditional students, as both groups had similar attendance records (Kuh, 1980, p. 15).

A British study showed that older students, though concerned about memory and frustration in coping with a traditionally young setting, remained more dedicated to their college studies. These non-traditional students performed best on continuous assessment; however, traditional students tested best on end-of-year exams (Clennell, 1984, p. 94).

Time management was another aspect leading to the differences between younger and older students. Trueman and Hartley (1996) noted that older students generally had better time management skills than younger students (p. 205). This find identified the dedication of older students in regards to furthering their education.

Student learning accompanied analyzing the drop out rate among university students. This was an interesting point to identify because it showed that older students had a lower drop out rate than younger students. In a 1998 study, Martinez and Munday looked into the overall drop out rate for American universities. Their findings showed that 207 traditional students withdrew from college with an overall 3.66 GPA. This statistic is higher than the non-traditional student drop out rate. Only 136 non-traditional students withdrew from college with an overall 3.85 GPA. This difference was attributed to many factors including dedication to studies, leisure time, and time management skills.

One reason the drop out rate was slightly lower for non-traditional students was because these older students were raising the standard for high school diploma earnings. Though it was unlikely that 90% of all students 25 years old and over would high school diplomas, the percentage was increasing. There was a 48.1% change since 1990 in the number of older students who had high school diplomas. This increase showed general interest in education among all ages of students (Creech, 1998, p. 24).

The last factor in determining a difference between traditional and non-traditional student learning involved the recruiting efforts exhibited by university administrators. Recruitment is important for the survival of any university. Realizing the increase of non-traditional student enrollment, many universities are encouraging older students to attend by offering night classes, hiring counselors skilled in handling older student problems, and forming some off-campus courses. Hagedorn and Doyle (1993) researched older women's' choices to attend an urban research university, and their findings showed that these older students preferred the university's specific degrees, its location and lower tuition rates (p. 10). These preferences were quite similar to the preferences of younger students attending the same university, and these results help draw attention regarding student preferences to administrators and the university recruitment process.

The admission packets for many universities entice older students with bold statements such as the following found in the California State University catalog. Policy 6 states, "The California State University shall ensure that admissions criteria are sufficiently flexible to account for the unique skills, abilities, and learning derived from experiences of older, part-time students" (p. 16). This statement is important because it shows administrative effort in making enrollment as comfortable for older students as younger students.

SUMMARY

The enrollment trend of non-traditional students, older students' needs as compared to younger students' needs, the difference in attitude between traditional and non-traditional students in regards to each other, statistics evaluating student learning

between young and old students, and recruiting strategies by university administrators were some of the factors which highlighted differences between traditional and non-traditional students. Evaluating student learning requires more in-depth research as the literature only scratched the surface of such a notable topic.

Chapter 3

COLLECTION OF THE DATA

The purpose of this study was to determine whether or not there was a significant difference in the mean mid-semester percentage score between a population of 6 university students over the age of 30 and a population of 15 university students under the age of 30 as measured by teacher-made assessments at OSU-Tulsa, Spring Semester 2000, Tulsa, Oklahoma. The collected data for this study included explanation of the population used, instrument utilized to research the population, and the method of collecting data.

SAMPLE

The sample was comprised of undergraduate students attending an English course, Technical Writing, at OSU-Tulsa during the Spring Semester 2000. The population was selected due to the size of the sample. Though sex was not a factor in the study, 8 of the students were female and 13 of the students were male, majoring in a variety of subjects such as English, Electrical Engineering, Computer Science, and Nutritional Studies. Surveys that determined each student's age were passed out among the class and evaluated. Chronologically the students were 22 years to 53 years old. Between the 21 students that participated in the study, 6 students were over the age of 30 and 15 students were under the age of 30. After compiling and averaging each student's teacher-made assessment scores, a mid-semester percentage score was produced for each student. The averages were analyzed to reflect any difference between the two groups.

INSTRUMENT USED

For this study, teacher-made assessment scores were used to evaluate the two groups. These assessments were made and distributed by Barbara Christmann, professor of Technical Writing, at Oklahoma State University-Tulsa, Spring Semester 2000. These assessments were carefully produced using textbook guidelines pertaining to the material covered in the classroom. These teacher-made assessments were made up of tests, assignments, and projects, making them representative of many areas of learning for the students. The assessments tested material covered by each lesson, assignment quality produced by each student, and techniques used in classroom projects. These were reliable and respected assessments used to equally evaluate each student's performance in the classroom.

METHOD OF COLLECTING DATA

Collecting data for this study first involved gaining permission by Barbara Christmann, professor of Technical Writing. The Technical Writing students were voluntary participants. The data was collected on a Thursday night during class. The 21 students who participated in the study were surveyed to determine their ages. Two groups were then formed to separate students over the age of 30 and students under the age of 30. The students' teacher-made assessment scores were compiled and averaged. The averages yielded a mid-semester percentage score for each student, and these scores were placed next to the corresponding student-assigned number in one of the two groups. The two groups ultimately reflected the age and mid-semester percentage score of each student.

Chapter 4

PRESENTATION OF THE DATA

STATISTICS USED

The mid-semester percentage scores used to evaluate traditional and non-traditional student achievement were obtained from the undergraduate English course, Technical Writing, taught by Barbara Christmann at OSU-Tulsa during the Spring Semester 2000. The 21 students that participated in the study were divided into two groups, those over the age of 30 and those under the age of 30.

Table 1 listed the mean mid-semester percentage scores for those students over the age of 30 as 89. For the students under the age of 30, Table 1 listed the mean mid-semester percentage score as 86. The observed difference between the mean scores was 3. A "t" test computation showed a difference of .857. This "t" test was computed at the .05 level of confidence, with 19 df. Figure 1 divided each group and outlined each participant's mid-semester percentage scores. The scores were placed in formulas to produce the necessary numbers used to determine the "t" test.

Table 1

THE MEAN MID-SEMESTER PERCENTAGE SCORE DIFFERENCE BETWEEN STUDENTS OVER THE AGE OF 30 AND STUDENTS UNDER THE AGE OF 30

Mean Mid-Semester Percentage Score For Students Over the Age of 30	Mean Mid-Semester Percentage Score For Students Under the Age of 30	Observed Mean Difference	Computed "t"	$t_{.05}$ 19 df
89	86	3	*.857	2.093

*Not significant at the .05 level of confidence

ANALYSIS OF THE DATA

Figure 1 broke down numbers used to determine a significant difference between two groups of students, those over the age of 30 and those under the age of 30. The figure illustrated the mean mid-semester percentage score for both groups, and placed the students' mid-semester percentage scores into formulas, producing the necessary numbers used for the "t" test.

Figure 1

Mid-semester percentage scores and deviation scores for students over the age of 30 and students under the age of 30

Mean % Scores For Students Over the Age 30 X	Mean % Scores For Students Under the Age 30 Y	x	x^2	y	y^2
86	78	-3	9	-8	64
89	81	0	0	-5	25
88	88	-1	1	2	4
81	90	-8	64	4	16
98	93	9	81	7	49
94	71	5	25	-15	225
	86			0	0
	93			7	49
	93			7	49
	96			10	100
	95			9	81
	86			0	0
	88			2	4
	83			-3	9
	74			-12	144
Sum: 536	1295		180		819
Mean: 89	86				

$$"t" = \frac{X-Y}{\sqrt{\left(\frac{\Sigma x^2 + \Sigma y^2}{N_1 + N_2 - 2}\right)\left(\frac{N_1 + N_2}{N_1 N_2}\right)}}$$

$$"t" = \frac{89 - 86}{\sqrt{\left(\frac{180 + 819}{6 + 15 - 2}\right)\left(\frac{6 + 15}{6(15)}\right)}}$$

$$\frac{3}{\sqrt{\left(\frac{999}{19}\right)\left(\frac{21}{90}\right)}}$$

$$\frac{3}{\sqrt{\left(52.57\right)\left(.233\right)}}$$

$$\frac{3}{\sqrt{12.25}}$$

$$\frac{3}{3.5}$$

"t" .857

$df = N_1 + N_2 - 2 = 5 + 4 - 2$
df 19

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

The purpose of this study was to determine whether or not there was a significant difference in the mean mid-semester percentage score between a population of 6 university students over the age of 30 and a population of 15 university students under the age of 30 as measured by teacher-made assessments at OSU-Tulsa, Spring Semester 2000, Tulsa, Oklahoma. The students over the age of 30 had a mean mid-semester percentage score of 89, and the students under the age of 30 had a mean mid-semester percentage score of 86. A "t" test score of .857 and 19 df indicated no significant difference between the scores of the students over the age of 30 and the scores of the students under the age of 30. With the "t" test result, the Null Hypothesis was accepted.

CONCLUSIONS

Several questions were posed in Chapter 1, and in conclusion the answers to these questions are as follows:

1. The mean mid-semester percentage score for the students over the age of 30 was 89.
2. The mean mid-semester percentage score for the students under the age of 30 was 86.
3. The observed difference in the mean mid-semester percentage score between the two groups was 3.
4. The computed difference at the .05 level of confidence was not significant.
5. The Null Hypothesis was accepted.

RECOMMENDATIONS

The recommendations for future research include:

1. Researching a larger sample size
2. Considering the educational backgrounds of the students
3. Choosing sample groups from different universities
4. Choosing sample groups from different courses

The recommendations for the profession include:

1. Treating all students, regardless of age, equally
2. Providing multiple activities in the classroom to meet each student's needs
3. Participating in workshops to learn techniques in dealing with age variety in the classroom

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